SUPPLEMENT A
JULY 1993

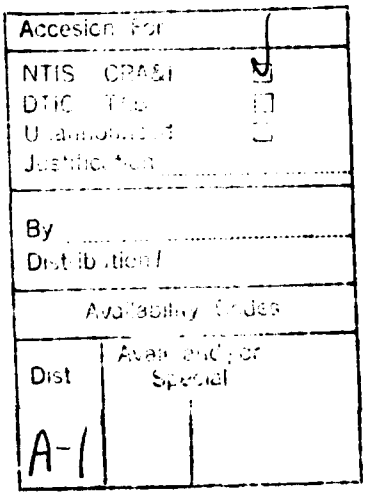
SUPPLEMENT A

TO

EDMS Microcomputer Pollution Model for Civilian Airports and Air Forces Bases

NOTICE

The following pages contained in SUPPLEMENT A of the EDMS are to be appropriately inserted in the EDMS User's Guide. The associated page numbers will indicated which pages are to be added and which pages are to replace previous pages.



Instructions for inserting **SUPPLEMENT A**
into **Emissions and Dispersion Model System, User'S Guide.**

Page	i(a)	insert after page i.	Revised Documentation page.
Page	iv	replaces same page.	Revised Table of Contents.
Page	v	replaces same page.	Revised Table of Contents.
Page	4	replaces same page.	Minor revision.
Pages	6 thru 7	replace same page.	Minor revision.
Pages	9 thru 12	replace same page.	Minor and major revision.
Page	14	replaces same page.	Minor revision.
Page	17	replaces same page.	Minor revision.
Page	21	replaces same page.	Major revision.
Pages	23 thru 27	replace same page.	Minor and major revision.
Page	31 thru 34	replaces same page.	Minor revision.
Pages	A3 thru A12	replace pp. A3 thru A5	Major revision.

Technical Report Documentation Page

(FAA) FAA-EE-91-3 (USAF) ESL-TR-91-31 SUPPLEMENT "A"	2. Government Accession No.	3. Recipient's Catalog No.

4. Title and Subtitle EDMS - MICROCOMPUTER POLLUTION MODEL FOR CIVILIAN AIRPORTS AND AIR FORCE BASES: USER'S GUIDE SUPPLEMENT "A"	5. Report Date JUNE 1993
	6. Performing Organization Code DOT / FAA
7. Author(s) H. M. SEGAL	8. Performing Organization Report No.
9. Performing Organization Name and Address FEDERAL AVIATION ADMINISTRATION OFFICE OF ENVIRONMENT AND ENERGY 800 INDEPENDENCE AVENUE, SW WASHINGTON, DC 20591	10. Work Unit No. (TRAIS)
	11. Contract or Grant No.
	13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address THE EDMS PROGRAM IS BEING JOINTLY FUNDED BY THE FAA. (SEE ABOVE) AND THE USAF ENGINEERING AND SERVICES CENTER, TYNDALL AIR FORCE BASE, FLORIDA 32403	14. Sponsoring Agency Code AEE-120 (FAA); AL/EQS (USAF)

15. Supplementary Notes

16. Abstract

This supplement announces the incorporation of the latest aircraft emission database (EPA, 1992) and the latest motor vehicle database (Mobile 5a) into the Emissions and Dispersion Modeling System (EDMS). (The Clean Air Act Amendments of 1990 requires that the latest emission information be used to establish the Conformity of an airport improvement project with the State Implementation Plan.)

This supplement also documents the following model enhancements: (1) an expansion of the emissions inventory portion of the model to accommodate ground support equipment and airport spray painting facilities; (2) the condensation of the emissions report into a one page printout; (3) the summarizing of calculated concentrations into hourly average time periods associated with each pollutant; (4) the access of the dispersion output file (disperse.out) directly from the menu; (5) the addition of a gridding algorithm designed to permit the entry of up to 200 receptors into the model; (6) the expansion of the example problem procedure to accommodate gridding.

17. Key Words POLLUTION, AIR POLLUTION, DISPERSION MODEL, EMISSIONS MODEL, DATA BASE, MICROCOMPUTER	18. Distribution Statement NATIONAL TECHNICAL INFORMATION SERVICE (NTIS) SPRINGFIELD, VA 22161 DEFENSE TECHNICAL INFORMATION CENTER (DTIC) CAMERON STATION, ALEXANDRIA, VA 22314

19. Security Classif. (of this report) UNCLASSIFIED	20. Security Classif. (of this page) UNCLASSIFIED	21. No. of Pages 39	22. Price

Form DOT F 17007.7 (8-72) Reproduction of completed page authorized

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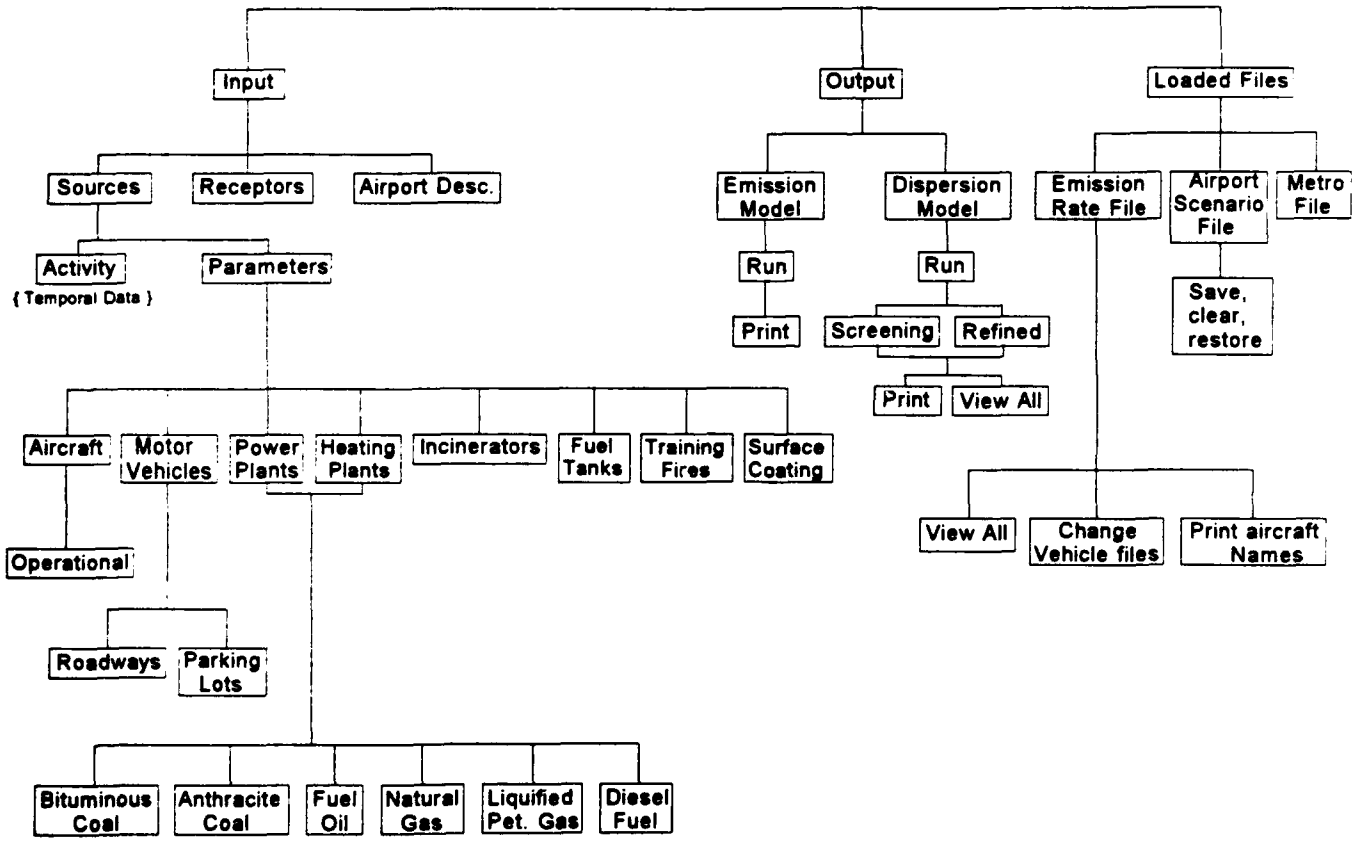


FIGURE 2

SUPPLEMENT A

3 - SYSTEM SET-UP

3.1 HARDWARE

EDMS requires the following hardware:

1. An IBM PC/XT/AT or compatible computer.
2. At least 400 kilobytes of free memory.
3. One floppy disk drive.
4. One hard drive with at least 5 megabytes free.

In addition, the following items should enhance model performance:

1. A computer with an 80486 processor.
2. An additional 10 megabytes on the hard drive.

3.2 SOFTWARE

EDMS requires the following software:

1) MS-DOS version 2.1 or higher

2) 2 diskettes containing the EDMS code

Note: These diskettes can be purchased for $40 from the :

Federal Aviation Administration
800 Independence Avenue, SW.
AEE-120
Washington, D.C. 20591
Attn: Howard M. Segal
Telephone: (202) 267-3494

3.3 INSTALLATION OF CODE

Loading instructions are as follows:

1. The CONFIG.SYS file of the computer must have its FILE and BUFFER commands set at 30 or above.

Note: Reboot the computer if you change these settings.

2. Insert disk #1 into the "A" or "B" drive.
3. Type "A:" or "B:"
4. Type "INSTALL" and follow instructions.

This install program does the following:

1. Permits the user to select any letter hard drive.
2. Creates a sub directory called "EDMS793".
3. Copies EDMS code from 2 diskettes into "\EDMS793" sub directory.

Source - Receptor Geometry At Washington National Airport

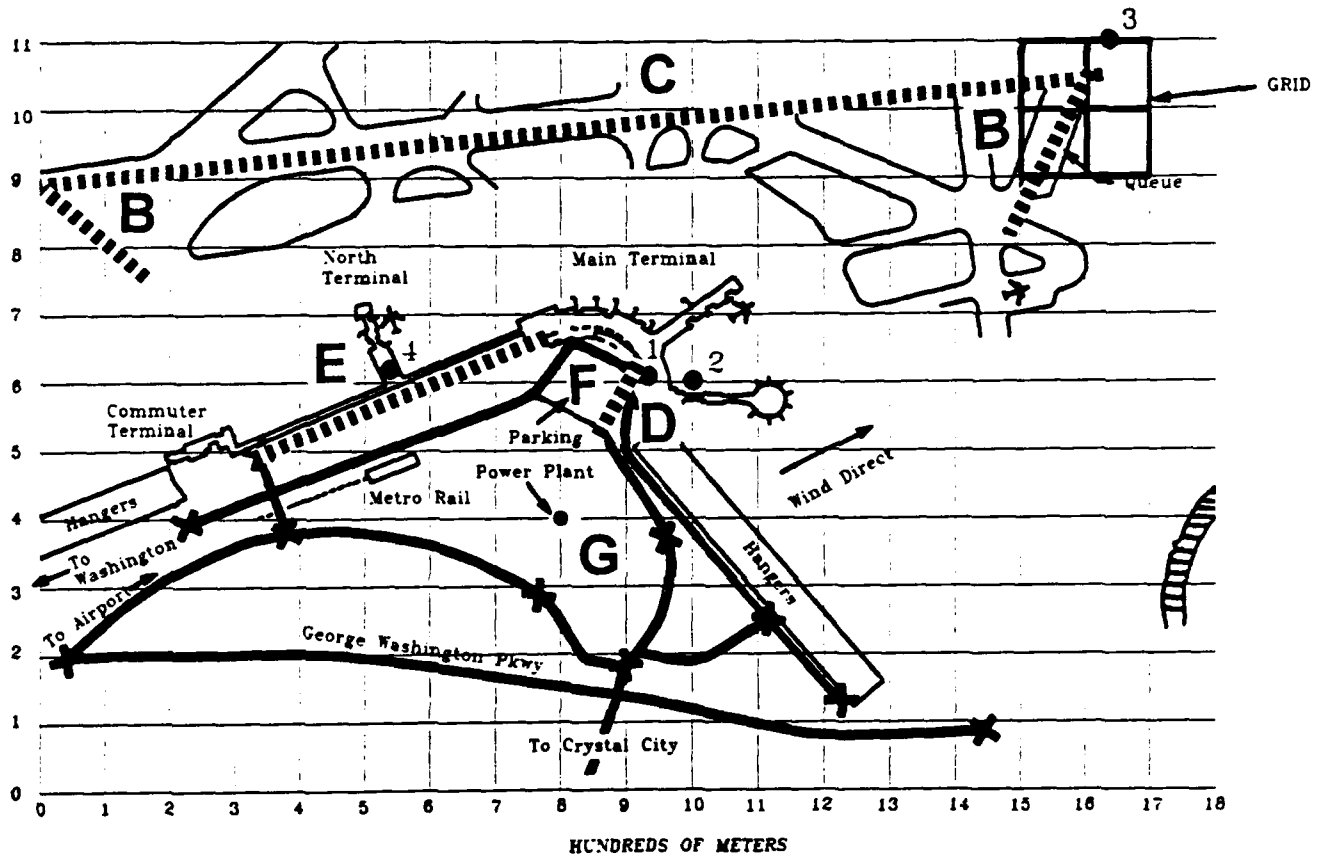


FIGURE 3

SUPPLEMENT A

4.3.1.2 Source inputs

Table 1 lists source characteristics.

TABLE 1

SOURCE INPUTS
(refer to Figure 3)

Source	Coordinates (M)				Source Activity *	Duty Cycle	
	x1	y1	x2	y2		Record Name	%Activity (Temporal Factor)
Power Plant G	800	400			4 m tons/hr bituminous coal	POWER	100% activity for all days, months & hours
Runway C	1600	1050	000	900	10 DC9s/hr. 12 727s/hr.	SCENARIO	1200 - 90% activity 1300 - 60% activity all other activity is 100%
Queue B	150	760	1500	820	10 DC9s/hr. 12 727s/hr	SCENARIO	same as "Runway"
Roadway E	320	500	770	660	340 veh/hr 15 mi/hr 20% cold	SCENARIO	same as "Runway"
Roadway D	880	530	910	610	1500 veh/hr 5 mi/hr 20% cold	SCENARIO	same as "Runway"
Parking Lot F	870 830	520 660	910 770	620 580	150 veh/hr 5 mi/hr 80% cold	SCENARIO	same as "Runway"

* Source activity for the peak hour of the year.

4.3.2 RECEPTORS

There are two sets of receptors; the ones for the screening mode (Table 1B) and the ones for refined mode (Table 1A). The receptors coordinates for both sets are listed below.

TABLE 1A (refined)

Receptor Name	"X" Location (meters)	"Y" Location (meters)
#1 Main Terminal	920	600
#2 South of Main Terminal	1000	600
#3 Runway - North End	1650	1100
#4 North Terminal	550	610

TABLE 1B (screening)

Receptor Name	"X" Location (meters)	"Y" Location (meters)
receptor # 0	1500	900
receptor # 1	1500	1000
receptor # 2	1500	1100
receptor # 3	1600	900
receptor # 4	1600	1000
receptor # 5	1600	1100
receptor # 6	1700	900
receptor # 7	1700	1000
receptor # 8	1700	1100

4.3.3 METEOROLOGICAL DATA

Meteorological inputs are required for both the screening and refined runs.

SCREENING RUN

Parameter	Hourly averaged values
Wind speed (meters/second)	1
Wind direction (degrees)	225
Air temperature (degrees F.)	70
Pasquill/Gifford stability (1-6)	2

Note: Stability classes 1 - 6 correspond to Pasquill/Gifford stability classes A - F.

REFINED RUN

Meteorological data must be loaded into EDMS before starting a refined run. However, the user will not have to load a meteorological file before running the example problem because one such file has already been loaded into the model.

To further reduce run time, only 8 hours of meteorological data are scheduled to be processed; starting Aug 11 - 8:00 am and ending Aug 11 - 3:00 pm.

4.4 INSTRUCTIONS TO RUN MODEL

The example problem instructions incorporate some special notations. The word ENTER in the text means that the carriage return key (↵) should be pressed. Text entries must all be in upper (or lower) case since the data base distinguishes between upper and lower case characters. Quotes around numbers, characters, or words are for identification only. They are not to be typed in.

The 104 step example problem is listed below. The flow chart of Figure 2 should prove helpful if the user gets lost while running the example problem.

PREPARE FOR DATA ENTRY

STEP	ACTION	PURPOSE
1	turn on computer, monitor and printer	activate system
2	intentionally blank	
3	press CAPS LOCK key	set for upper case entry *
4	type "CD \EDMS" ENTER	change to the EDMS directory
5	type "EDMS" ENTER	execute EDMS program within the EDMS directory

NOTE:- Because EDMS is delivered with empty input screens, the user will not have to empty these screens before running the example problem. However, before a new scenario can be started, all input screens must be empty. Option 8 of the main menu shows how to empty these screens.

* This case must be consistently used throughout the data entry process.

ENTER TEMPORAL DATA

15	type "2" ENTER	select TEMPORAL option
16	type "1" ENTER	select "add" option
17	type "POWER" ENTER	enter temporal record name
18	type ENTER 43 times	enter 1.0 for 100%
19	type "C"	save first record "POWER";
20	type "SCENARIO" ENTER	start the second record (see Table 2)
21	press ENTER 12 times	enter default (1.0)
22	type ".9" ENTER	enter 90% (for 1200 hours)
23	type ".6" ENTER	enter 60% (for 1300 hours)
24	press enter 29 times	enter 100%
25	intentionally blank	
26	intentionally blank	
27	type "E"	save
28	type "11" ENTER	return to the main menu

TABLE 2

TEMPORAL ACTIVITY

Temporal name SCENARIO

Hourly factors:

0 1.00	1 1.00	2 1.00	3 1.00	4 1.00	5 1.00
6 1.00	7 1.00	8 1.00	9 1.00	10 1.00	11 1.00
12 0.90	13 0.60	14 1.00	15 1.00	16 1.00	17 1.00
18 1.00	19 1.00	20 1.00	21 1.00	22 1.00	23 1.00

Daily factors:

Sun 1.00	Mon 1.00	Tue 1.00	Wed 1.00
Thu 1.00	Fri 1.00	Sat 1.00	

Monthly factors:

Jan 1.00	Feb 1.00	Mar 1.00	Apr 1.00	May 1.00	Jun 1.00
Jul 1.00	Aug 1.00	Sep 1.00	Oct 1.00	Nov 1.00	Dec 1.00

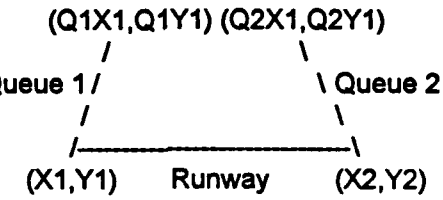
TABLE 4

OPERATIONAL AIRCRAFT SOURCES (2)

TEMPORAL SCENARIO
Name DATA32 MAIN

Runway:
Location: Point 1 X1 1600 Y1 1050
Point 2 X2 0 Y2 900

Aircraft type AIRCFT 727
Takeoffs(peak hour) — 12.00
—— 100.00



Queue:
Time in Mode: QTIM 12.00

End point of queue #1: Q1X1 1500 Q1Y1 820
End point of queue #2: Q2X1 150 Q2Y1 760

QUENUM 1 (use default)

Hourly touch and go: HTGO 0.00

50	type "E"	save
51	type "10" ENTER	return to aircraft menu
52	type "10" ENTER	return to Sources menu

ENTER RECEPTORS

66	type "3" ENTER	select receptor
67	type "5" ENTER	prepare to enter grid coordinates
68	enter data from Table 8 type "E" to end	enter grid coordinates
69	type "11" ENTER	return to main menu

TABLE 8

GRID

GRID DIMENSIONS (meters)

All entries should be divisible by 10. Maximum number of receptors 200.

Grid origin: X1: 1500 Y1: 900

Maximum distance from origin: X2: 1700 Y2: 1100

Distance between receptors: distance: 100

RUN DISPERSION MODEL IN SCREENING MODE – PRINT RESULTS

74	type "6" ENTER	select dispersion menu
75	type "1" ENTER	enter new meteorological data
76	type "70" ENTER	enter temperature in degrees F
77	type "1" ENTER	enter wind speed
78	type "225" ENTER	enter wind direction
79	type "2" ENTER	enter stability class
80	type "E"	to save meteorological data
81	type "3" ENTER	initiate dispersion model concentration
82	type "4" ENTER	print screening dispersion report

Note: Verify that your printer is set to accept 132 characters.

83	type "11" ENTER	return to main menu

RUN DISPERSION MODEL IN REFINED MODE – PRINT RESULTS

84	type "3" ENTER	select receptors
85	type "3" ENTER type "Y"	empty receptor file
86	type "1" ENTER	display receptor screen
87	enter data from Table 1A (see page# 11)	enter receptors 1 through 4

Note: After entering the first receptors, press "C" to enter the next receptor. After entering the last receptor, press "E" to end.

88	type "11" ENTER	return to main menu

89	type "5" ENTER	select emissions model menu
90	type "1" ENTER	run emissions model
91	type "11" ENTER	return to main menu
92	type "6" ENTER	select dispersion menu
93	type "5" ENTER	run dispersion for refined mode
94	type "8, 11, 08" ENTER	enter starting time (Aug 11-8:00 am)
95	type "8, 11, 15" ENTER	enter ending time (Aug 11-3:00 pm)
96	type "6" ENTER	select print options
97	type "3" ENTER	print maximum 8 hours concentrations (CO)
98	type "11" ENTER	return to main menu

SAVE AND ERASE DATA

99	type "8" ENTER	display save, delete, and restore options
100	type "1" ENTER (follow screen instructions)	save airport scenario on floppy diskette
101	type "2" ENTER	erase saved scenario from hard disk
102	type "Y" ENTER	This action clears the hard disk to accept new scenario data
103	type "11" ENTER	return to main menu
104	type "10" ENTER	leave the EDMS program and return to DOS

5. - GENERAL TASKS

5.1 ENTERING AIRCRAFT QUEUES

The user must enter two possible queue locations, one at each end of a runway. This is necessary because the model automatically selects the queue location associated with takeoff into the wind.

The number of queuing aircraft is determined either by observing queue length at peak hour or by multiplying estimated peak hour Time In Mode (TIM) –in minutes – by the estimated peak hour departure rate – in airplanes per minute. Having calculated the number of queuing aircraft, queue length is determined by adding up the length of all aircraft and the spacing between them.

The queue line extends from the end of the runway where aircraft first start their takeoff roll to the location on the taxiway where the last aircraft is queuing. This hypotenuse assumption for the aircraft queue will have an insignificant effect on model results.

5.2 ENTERING LONG-TERM METEOROLOGICAL DATA

The National Climatic Data Center (NCDC) distributes AIRWAY SURFACE OBSERVATION files for each weather station in the United States. Before a refined run can start, these files must be entered into EDMS. (Files can be obtained by contacting the NCDC in Ashville, North Carolina 28801). The procedure for entering these files is as follows:

1- Enter EDMS (follow steps noted on page 12)

2- Execute item 9 of the main menu
and follow instructions.

After entering a new weather station file, the weather station default file, which is for 1982 hourly weather observations at Stapleton International Airport (DEN), will be overwritten.

5.3 CHANGING THE MOTOR VEHICLE FLEET MIX YEAR

Emission rate (standards) files for 1990, 1995, 2000, and 2010 fleet mixes have been loaded into EDMS in accordance with Mobile 5a information provided by the EPA in March 1993. The user can select emission information for any one of these 4 years by selecting option 7 of the main menu and following the instructions that appear on the screen. When this is done, the file default, 1990 - high altitude, is overwritten.

As new issues of the Mobile model are released, they will be incorporated into EDMS. The user should check with the model issuer to determine what version of the Mobile model has been loaded into his version of EDMS.

5.4 VIEWING EMISSION RATE FILES

Exercising option 7 of the main menu will provide access to all emission rate information.

5.5 PRINTING OUT AIRCRAFT IDENTIFIERS

Explicit aircraft names (i.e. A7D/K; not A7D) must be entered into EDMS to avoid an error message. Option 7 of the main menu permits access to the specific aircraft names that EDMS will accept.

5.6 RESTORING AN OLD SCENARIO

Option 7 can also be used to restore previously saved scenarios. However, make sure that the scenario being restored was saved on same version of EDMS that you are using. To check version compatibility do the following:

1. Exit EDMS and enter DOS
2. Insert saved diskette into the "A:" drive.
3. Type "VOL A:" <ENTER>

The version number that was used to create the diskette will be noted in the screen text. If this number is different from the EDMS version that presently resides in your computer, you must reenter all input field data from the saved diskette into your on-line EDMS system.

5.7 RETRIEVING DISPERSION RESULTS

Hourly concentration values are written to a text file called DISPERSE.OUT. Option 6 of the main menu initiates access to this file.

6. - GENERAL INFORMATION

6.1 OPERATIONAL CONSTRAINTS IN ENTERING DATA AND RUNNING THE MODEL

6.1.1 DATA INPUT LIMITS

STANDARDS:

FILE NAME	FILE DESCRIPTION	RECORD LIMIT
AIRZ	Aircraft	488 (61 aircraft * 8 geomodes)
MVEM	Motor Vehicles	60
TFEM	Training Fires	1
PPEF	Power Plants	22
INEF	Incinerators	5
TNEF	Tank Farms	7 (17 fuel types)
SCEF	Surface Coating	15

SOURCES:

ACTH	Temporal	30
RUNW	Aircraft Takeoffs	162 (ie. 4 runways * 41 aircraft)
ROAD	Roadways	300
VPRL	Car Parking	30
TANK	Tank Farms	20
FIRE	Training Fires	20
PLAN	Power Plants	20
HEAT	Heating Plants	20
INCI	Incinerators	20
SURF	Surface Coating	20

RECEPTORS:

RECP	Receptors	200

6.1.2 DATA PROCESSING CONSTRAINTS

This section provides information on the time it takes to run the model and the amount of disk storage space needed to store modeling results. Table 9 lists the characteristics of 7 scenarios that were run during model development. These scenarios were run on a 386 -- 25 Mhz computer with an 80387 math coprocessor.

Let us assume that the variable and non-variable monthly temporal factor averages (1.0 and 0.5 from the above table) apply weekly and hourly as well. Values to be entered into equation (1) are therefore:

		VARIABLE	NON-VARIABLE
FACTOR AVERAGE - MONTH	(from table)	0.5	1.0
FACTOR AVERAGE - DAYS	(assumed same)	0.5	1.0
FACTOR AVERAGE - HOUR	(assumed same)	0.5	1.0
ANNUAL OPERATIONS	(assumed)	17,520	17,520

HOURS IN A YEAR – 8760

THEN:

NON-VARIABLE FACTOR CALCULATION

17,520 / 8760 / 1 / 1 / 1 = 2 peak hour departures.

VARIABLE FACTOR CALCULATION

17,520 / 8760 / 0.5 / 0.5 / 0.5 = 16 peak hour departures

Notice that the peak hour departures are quite different even though the annual operations are the same – 17,520 departures.

6.3 FUEL CODES

Fuel code names are listed in Table 10.

TABLE 10

FUEL CODES

FUEL CODE	NAME	USAGE	
		STORAGE TANKS	TRAINING FIRES
3	Fuel Oil	√	
6	Diesel	√	
8	Automobile Gasoline	√	
9	Aviation Gasoline	√	
10	JP4	√	√
11	JP5	√	
13	JET A	√	

6.4 MODES AND TIMES IN MODE

The model refers to eight Geomodes, each of which has a different TIME IN MODE (TIM). (A Geomode is the title given to an aircraft operation such as taxi or takeoff with one exception -- Geomode 5 .) Geomode 5 does not list aircraft times in mode but rather incorporates the operational times of the Ground Support Equipment (GSE) that support each aircraft.

The relationship of EDMS Geomodes to EPA TIMES IN MODE are listed in Table 11. These values can be changed to airport specific times in mode if the user so desires.

TABLE 11

MODES ASSIGNED TO CIVIL AIRCRAFT

EDMS MODES	EPA MODES	EPA TIMES IN MODE (MIN)		
		TURBO FAN* TURBO JET	TURBO* PROP	PISTON**
1 - RUNWAY TAKEOFF	TAKEOFF	0.7	0.5	0.3
2 - RUNWAY QUEUE	***RUNWAY QUEUE	12.0	12.0	4.0
3 - TOUCH AND GO				
4 - TAXIWAY CYCLE	***TAXI OUT	7.0	7.0	8.0
	***TAXI IN	7.0	7.0	4.0
5 - GROUND SUPPORT EQUIPMENT ****				
6 - ENGINE TESTING				
7 - CLIMB	CLIMB	2.2	2.5	6.0
8 - APPROACH	APPROACH	4.0	4.5	6.0

* Page 58473, Federal Register, December 30, 1982 (Final Engine Emission Standards)
** Page 19101, Federal Register, July 17, 1973 (Initial Engine Emission Standards)
*** 26 minute EPA taxi-idle time in mode breakdown (estimated)
**** The model includes GSE operating time defaults for each item of GSE.

6.5 HARD DRIVE DESIGNATION

This new version of EDMS will operate properly in any assigned hard drive. (i.e. C, D, E, F....Z). The drive is assigned by the user during model installation.

Note: If EDMS has been installed in a drive that is not the "C" drive, EDMS assumes that your primary or bootable hard drive is "C".

6.6 TEXT CHARACTERS

All data fields should contain only numeric and/or alphabetic characters. The introduction of other characters, such as semicolons or commas, will distort file writing procedures and will cause an error message to appear. Also, to avoid possible case mismatch problems, all data entry characters should be in upper case.

7 - REFERENCES

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Segal H. M.; Microcomputer Graphics in Atmospheric Dispersion Modeling; Journal of the Air Pollution Control Association; 23:6; June 1983

Segal H. M. and Hamilton P. L.; A Microcomputer Pollution Model For Civilian Airports and Air Force Bases -- Model Description ; Federal Aviation Administration; Washington, D. C. 20591; Report # FAA-EE-88-4 ESL-TR-88-41 August 1988

Wang I. T., Conley D. M., Rote D. M.; Airport Vicinity Air Pollution Model User's Guide"; Argonne National Laboratory, Argonne, Ill.; 1973

EMISSION REPORT
(all values are in grams/year)

	CARBON MONOXIDE	HYDROCARBONS	NITROGEN OXIDES	SULPHUR OXIDES	PARTICULATES
ROADWAYS	1.457E+08	1.057E+07	4.948E+06	2.840E+03	1.885E+04
VEH. PARKING	2.553E+07	1.818E+06	5.577E+05	2.682E+02	1.780E+03
POWER PLANTS	1.052E+08	1.929E+06	1.140E+08	6.837E+08	2.805E+08
GRND. SUP. EQU.	5.506E+08	1.214E+08	1.002E+08	2.156E+06	6.230E+06
AIRCRAFT	2.371E+09	5.648E+08	1.744E+09	1.173E+08	0.000E+00
GRAND TOTAL	3.198E+09	7.005E+08	1.964E+09	8.032E+08	2.868E+08

DISPERSION REPORT
(Screening Mode)

CONCENTRATION - ALL SOURCES

INPUT								OUTPUT				
					RECEPTORS (m)			CONCENTRATIONS (gm/m^3)				
DATE	HR	W/S m/s	WD DEG	P/G A=1	NO	X	Y	CO	HC	NOx	SOx	PART
JAN- 1-00	0	1	225	2	1	1500	900	2.20E-05	1.42E-06	3.59E-06	1.87E-05	7.68E-06
JAN- 1-00	0	1	225	2	2	1500	1000	5.45E-05	3.58E-06	7.61E-06	3.84E-05	1.58E-05
JAN- 1-00	0	1	225	2	3	1500	1100	1.65E-04	2.66E-05	1.34E-03	9.22E-05	2.18E-05
JAN- 1-00	0	1	225	2	4	1600	900	1.24E-03	3.01E-04	1.87E-04	4.78E-05	6.11E-06
JAN- 1-00	0	1	225	2	5	1600	1000	4.37E-03	1.06E-03	6.57E-04	1.51E-04	1.44E-05
JAN- 1-00	0	1	225	2	6	1600	1100	8.64E-04	2.02E-04	2.90E-03	1.55E-04	2.31E-05
JAN- 1-00	0	1	225	2	7	1700	900	1.24E-04	2.93E-05	1.97E-05	1.33E-05	4.13E-06
JAN- 1-00	0	1	225	2	8	1700	1000	2.80E-03	6.78E-04	4.22E-04	1.01E-04	1.10E-05
JAN- 1-00	0	1	225	2	9	1700	1100	7.06E-03	1.71E-03	1.72E-03	2.55E-04	2.01E-05

CONCENTRATION - BY SOURCE TYPE

CARBON MONOXIDE (gm/m^3)												
DATE	HOUR	RECP	ROADWAYS	PARKING	POWER PLANTS	HEATING PLANTS	INCINER-ATORS	TRAINING FIRES	FUEL FACILITY	SURFACE COATING	AIRCRAFT QUEUES	AIRCRAFT TAKEOFFS
JAN- 1-00	0	1	1.703E-05	2.061E-06	2.879E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
JAN- 1-00	0	2	4.208E-05	6.551E-06	5.913E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
JAN- 1-00	0	3	5.848E-05	1.117E-05	8.191E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.712E-05
JAN- 1-00	0	4	5.649E-06	6.601E-07	2.290E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.234E-03	0.000E+00
JAN- 1-00	0	5	1.892E-05	2.726E-06	5.398E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.348E-03	0.000E+00
JAN- 1-00	0	6	3.522E-05	6.072E-06	8.647E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.308E-04	1.830E-04
JAN- 1-00	0	7	1.876E-06	2.190E-07	1.549E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-04	0.000E+00
JAN- 1-00	0	8	7.937E-06	1.091E-06	4.136E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.787E-03	0.000E+00
JAN- 1-00	0	9	1.875E-05	3.013E-06	7.555E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.990E-03	4.336E-05

NITROGEN OXIDES (gm/m^3)												
DATE	HOUR	RECP	ROADWAYS	PARKING	POWER PLANTS	HEATING PLANTS	INCINER-ATORS	TRAINING FIRES	FUEL FACILITY	SURFACE COATING	AIRCRAFT QUEUES	AIRCRAFT TAKEOFFS
JAN- 1-00	0	1	4.363E-07	3.622E-08	3.119E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
JAN- 1-00	0	2	1.094E-06	1.151E-07	6.405E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
JAN- 1-00	0	3	1.572E-06	1.963E-07	8.874E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.332E-03
JAN- 1-00	0	4	1.448E-07	1.160E-08	2.481E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.846E-04	0.000E+00
JAN- 1-00	0	5	4.904E-07	4.790E-08	5.848E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.503E-04	0.000E+00
JAN- 1-00	0	6	9.335E-07	1.067E-07	9.368E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.435E-05	2.799E-03
JAN- 1-00	0	7	4.811E-08	3.848E-09	1.678E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.794E-05	0.000E+00
JAN- 1-00	0	8	2.054E-07	1.917E-08	4.481E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.169E-04	0.000E+00
JAN- 1-00	0	9	4.935E-07	5.294E-08	8.185E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.046E-03	8.631E-04

DISPERSION REPORT

(Refined Mode)

TOP 8 HOUR AVERAGE CONCENTRATIONS OF CO

RECEPTOR	HOUR	CONCENTRATION (gm / m^3)
1	8	1.2084E-03
	8	1.1991E-03
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
2	8	7.5049E-05
	8	7.5049E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
3	8	4.9836E-05
	8	4.9836E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
4	8	9.2185E-05
	8	9.1744E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00

SUPPLEMENTARY

INFORMATION

U.S. Department of Transportation
Office of the Secretary of Transportation

400 Seventh St., S.W.
Washington, D.C. 20590

November 17, 1993

DTIC-FDAC, Buliding #5
Attn: Selection Section
Cameron Sta. Alexandria
Virginia 22304-6145

AD A271598

Dear Madam/ Sir:

This is to inform you of an errata sheet to a supplement of a technical report. The supplement is:

SUPPLEMENT A

To

EDMS Microcomputer Pollution Model for
Civilian Airports and Air Forces Bases

Attached, please find and process the errata sheet as a replacement page page for the existing page A5.

Your prompt attention to this matter is greatly appreciated. Thank you.

Please send me a receipt for this document.

Cordially,

D'Borah K. Hart

D'Borah K. Hart
Library Technician

DISPERSION REPORT

(Refined Mode)

TOP 8 HOUR AVERAGE CONCENTRATIONS OF CO

RECEPTOR	HOUR	CONCENTRATION (gm / m^3)
1	8	1.2084E-03
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
2	8	7.5049E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
3	8	4.9836E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
4	8	9.2185E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00

DISPERSION REPORT

(Refined Mode)

TOP 8 HOUR AVERAGE CONCENTRATIONS OF CO

RECEPTOR	HOUR	CONCENTRATION (gm / m^3)
1	8	1.2084E-03
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
2	8	7.5049E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
3	8	4.9836E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
4	8	9.2185E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00